



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,798

04/18/2007

Piero Losi

07040.0262-00000

3422

22852

7590

10/23/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

10/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,798	Applicant(s) LOSI ET AL.	
	Examiner Justin R. Fischer	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-95 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>063009,070109</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 35-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (JP 53080602, of record) and Ohashi (JP 02249707, of record).

As best depicted in Figure 2, Fukuda teaches a pneumatic tire construction having a tread formed of a first elastomeric material 6 and a second elastomeric material 5 (individual sectors separated by regions of first elastomeric materials), wherein said first elastomeric material is included in a groove section of the tread. The reference further teaches that the first elastomeric material provides higher wear resistance than the second elastomeric material. While the reference fails to expressly disclose the claimed modulus, one of ordinary skill in the art at the time of the invention would have recognized such a disclosure as teaching a higher modulus for the first elastomeric material. Ohashi provides one example of a similar tire design in which a rubber composition having a higher modulus is used in combination with a second elastomeric material in order to, among other things, provide improved wear/abrasion resistance. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use first and second elastomeric materials satisfying the claimed invention.

Art Unit: 1791

In such an instance, the first elastomeric material of Ohashi has a modulus of elasticity (at room temperature) of approximately 19.0 MPa, which is seen to constitute "about" 20 MPa. Also, one of ordinary skill in the art at the time of the invention would have expected the compressive modulus of the respective elastomeric compositions to be on the same order as those detailed above and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed absolute values (tensile and compressive modulus are approximately equal to one another in rubber compositions).

Regarding claim 36, Ohashi suggests a second elastomeric material having a modulus of elasticity (at room temperature) between approximately 6 and 14 MPa, which is almost identical to the claimed invention.

With respect to claims 35 and 37-39, Ohashi is directed to a wide variety of embodiments in which the respective moduli satisfy the broad ranges of the claimed invention and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed ranges.

With respect to claims 40-43, the claimed ranges are extremely broad and include relative language to define their lower and upper limits ("about"). Additionally, the claimed values are consistent with those commonly associated with tire components, including tread compositions. Absent any conclusive showing of unexpected, one of ordinary skill in the art at the time of the invention would have found it obvious to use compositions having the claimed hardness. It is emphasized that hardness values would be expected to be in the range of at least 50 and a difference of

Art Unit: 1791

at least 10 percent, more preferably at least 15percent, suggests a hardness difference on the order of at least 5, which is consistent with rubber compositions having different moduli and hardness (as is the case in Fukuda).

As to claim 44, grooves are formed within first sectors 6.

Regarding claim 45, said first sectors extend over the entire thickness of the tread.

With respect to claims 46-49, whether or not the base portions of the first or second elastomeric material are connected to one another (and thus define an “additional layer”) does not appear to be critical to the inventive concept of Fukuda. It is emphasized that the primary concern of Fukuda is in the inclusion of a first elastomeric material in the vicinity of the groove sections in order to improve wear/abrasion resistance. One of ordinary skill in the art at the time of the invention would have readily appreciated an arrangement in which the base portions of respective first sectors or second sectors are connected to one another. In this instance, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thickness of the connecting portion (claimed values are consistent with the values conventionally associated with crown reinforcing layers in general and such dimensions are commonly disclosed in terms of a broad range of values). Lastly, it is emphasized that tread/cap and similar mutli-layered tread designs are commonly formed with a wide variety of arrangements, including ones in which a ground contacting rubber is connected within the tire to define an underlayer.

Art Unit: 1791

With further respect to claims 46 and 48, the figures of Fukuda appear to depict an assembly in which the second material includes a plurality of sectors that contact the ground and are connected beneath the first sectors to define an underlayer.

Regarding claim 50, said first sector has a width greater than a width of the groove.

As to claim 51, the figures generally depict the first sectors as having a slightly greater width than the corresponding grooves- such a depiction appears to be consistent with the broad range of the claimed invention (difference of between 4-10 mm) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

Regarding claim 52, the grooves have a depth that extends beyond the meridian plane of the first sectors.

With respect to claim 69, the language "about 30 MPa" is not seen to define over the modulus set forth by Ohashi (approximately 19 MPa at upper end). It is emphasized that the original disclosure fails to associate a quantitative relationship with the term "about".

3. Claims 53-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda and Ohashi as applied in claim 53 above and further in view of Caretta (US 6,635,132, of record).

As detailed above, Fukuda describes a tire construction comprising first and second sectors that define the tread, wherein said sectors are independent of one another. While the reference is silent as to the specific manufacturing method, the

Art Unit: 1791

claimed method including a first and second delivery member is consistent with known tire manufacturing methods, as shown for example by Caretta (Figures 1 and 4). The reference further teaches that the robotized arm 16 can be used to position a toroidal support or drum in front of a plurality of extruders and such a method is applicable to a wide variety of tire components, including tire tread bands (Column 8, Lines 7+). In this instance, said plurality of extruders are associated with the deposition of said first and second sectors. Additionally, Figure 4 expressly depicts a method in which the toroidal support is rotated around the axis of rotation (rotation around axis X) and moved along a direction substantially parallel to a rotation axis of the toroidal support (movement around axis E).

One of ordinary skill in the art at the time of the invention would have found it obvious to position the first and second sectors of Fukuda on a toroidal support using the method described Caretta as it is consistent with the known manufacturing methods and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed manufacturing method.

As to claim 61, the tire construction of Fukuda in view of Caretta would include a plurality of coils (first and second sectors) axially arranged side by side.

With respect to claim 62, any toroidal support or drum can be viewed as being "substantially" rigid.

Regarding claims 63-68, as detailed above, one of ordinary skill in the art at the time of the invention would have found it obvious to form the first or second sectors (at the base regions) as a continuous tire component- such a construction is consistent with

Art Unit: 1791

the conventional manner in which tread/cap designs and other multi-layer tread designs are manufactured. It is further noted that applicant has not provided a conclusive showing of unexpected results to establish a criticality for the manufacture of a continuous component comprising either one of the first or second sectors (particularly evident in view of the fact that both embodiments are claimed).

With respect to claim 70, the language "about 30 MPa" is not seen to define over the modulus set forth by Ohashi (approximately 19 MPa at upper end). It is emphasized that the original disclosure fails to associate a quantitative relationship with the term "about".

4. Claims 71-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda and Ohashi and furthering view of Matsuo (EP 847,800) and/or Tsuboi (JP 2000-118212).

Fukuda in view of Ohashi substantially teaches the claimed tire assembly (see Paragraph 2 above). In this instance, the ground contacting first sectors are not depicted as being connected or joined to define an underlayer. In any event, it is extremely well known in similar tire assemblies to connect or join similar ground contacting sectors, as shown for example by Matsuo and/or Tsuboi. It is emphasized that there are an extremely limited number of possible configuration regarding the connection of first or second sectors to define such an underlayer and applicant has not provided a conclusive showing of unexpected results to establish a criticality of the claimed arrangement. It is additionally noted that applicant even claims each of the possible configurations (underlayer defined by either one of first or second sectors-

Art Unit: 1791

claims 46-48), further suggesting that the claimed arrangement in claim 71 does not demonstrate unexpected results.

Also, such an underlayer would be "suitable for providing global rigidity to the tread" in as much as the underlayer of the claimed invention satisfies such a characteristic (claim language fails to require any additional structure).

Regarding claim 72, Ohashi suggests a second elastomeric material having a modulus of elasticity (at room temperature) between approximately 6 and 14 MPa, which is almost identical to the claimed invention.

With respect to claims 71 and 73-75, Ohashi is directed to a wide variety of embodiments in which the respective moduli satisfy the broad ranges of the claimed invention and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed ranges.

With respect to claims 76-79, the claimed ranges are extremely broad and include relative language to define their lower and upper limits ("about"). Additionally, the claimed values are consistent with those commonly associated with tire components, including tread compositions. Absent any conclusive showing of unexpected, one of ordinary skill in the art at the time of the invention would have found it obvious to use compositions having the claimed hardness. It is emphasized that hardness values would be expected to be in the range of at least 50 and a difference of at least 10 percent, more preferably at least 15percent, suggests a hardness difference on the order of at least 5, which is consistent with rubber compositions having different moduli and hardness (as is the case in Fukuda).

As to claim 80, grooves are formed within first sectors 6.

Regarding claim 82, said first sector has a width greater than a width of the groove.

As to claim 83, the figures generally depict the first sectors as having a slightly greater width than the corresponding grooves- such a depiction appears to be consistent with the broad range of the claimed invention (difference of between 4-10 mm) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

Regarding claim 84, the grooves have a depth that extends beyond the meridian plane of the first sectors.

5. Claims 85-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda, Ohashi, Matsuo, and Tsuboi and further in view of Caretta.

As detailed above, Fukuda describes a tire construction comprising first and second sectors that define the tread, wherein said sectors are independent of one another. While the reference is silent as to the specific manufacturing method, the claimed method including a first and second delivery member is consistent with known tire manufacturing methods, as shown for example by Caretta (Figures 1 and 4). The reference further teaches that the robotized arm 16 can be used to position a toroidal support or drum in front of a plurality of extruders and such a method is applicable to a wide variety of tire components, including tire tread bands (Column 8, Lines 7+). In this instance, said plurality of extruders are associated with the deposition of said first and second sectors. Additionally, Figure 4 expressly depicts a method in which the toroidal

Art Unit: 1791

support is rotated around the axis of rotation (rotation around axis X) and moved along a direction substantially parallel to a rotation axis of the toroidal support (movement around axis E).

One of ordinary skill in the art at the time of the invention would have found it obvious to position the first and second sectors of Fukuda on a toroidal support using the method described Caretta as it is consistent with the known manufacturing methods and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed manufacturing method.

As to claim 93, the tire construction of Fukuda in view of Caretta would include a plurality of coils (first and second sectors) axially arranged side by side.

With respect to claim 94, any toroidal support or drum can be viewed as being "substantially" rigid.

Regarding claim 95, the claimed thickness is consistent with the thickness of layers in the belt region, whether they are belt reinforcing layers or simply rubber layers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thickness. It is emphasized that crown reinforcing layers are commonly described as having a broad range of thickness values and such ranges conventionally included the values set forth by the claimed invention.

Response to Arguments

6. Applicant's arguments filed June 30, 2009 have been fully considered but they are not persuasive.

Applicant argues that Ohashi expressly teaches against values of dynamic modulus of elasticity exceeding 190 kgf/cm² (approximately 19 MPa). The examiner agrees with applicant's characterization of the reference. However, the claims as currently drafted require a modulus of at least "about" 20 MPa and a modulus of approximately 19 MPa is seen to be "about" 20 MPa. It is suggested that applicant amend the claimed range to require an exact value for the lower and/or upper limits.

With further respect to new claims 71-95, applicant contends that the Examiner cites no reference disclosing an underlayer being integral with the first sector and comprised substantially of the first elastomeric material. As detailed above, these new claims have been rejected in view of Matsuo and/or Tsuboi, each of which expressly discloses a similar tread assembly in which ground contacting, first sectors are connected or joined to define an underlayer. In this instance, such an underlayer would be "suitable for providing global rigidity to the tread" in as much as the underlayer of the claimed invention satisfies such a characteristic.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1791

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/584,798

Page 13

Art Unit: 1791

Justin Fischer

/Justin R Fischer/

Primary Examiner, Art Unit 1791

October 21, 2009